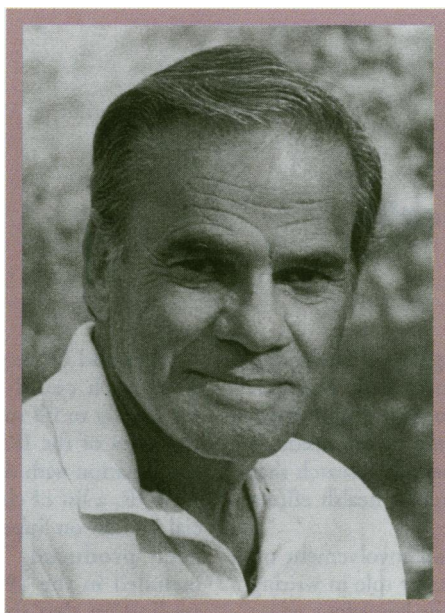


# Nobel Laureate Martin Rodbell Dies



**M**artin Rodbell, recipient of the Nobel Prize in Physiology or Medicine in 1994, passed away 7 December 1998 after a long illness. Rodbell had a long and distinguished career in research and senior leadership positions at the National Institutes of Health. At different times in his career, he conducted research at the National Heart Institute, the National Institute of Arthritis and Metabolic Diseases (NIAMD), and the National Institute of Environmental Health Sciences (NIEHS). He served as Scientific Director of the NIEHS from 1985 to 1989. In 1994 he shared the Nobel Prize in Physiology or Medicine with Alfred Gilman, Professor and Chairman in the Department of Pharmacology at University of Texas Southwestern Medical Center in Dallas, for their work on G-proteins, a key component of the communication system that regulates cellular activity. Rodbell was the fifth NIH intramural scientist to be awarded a Nobel Prize.

Martin Rodbell was born on 1 December 1925 in Baltimore, Maryland. He attended public schools in Baltimore and graduated from an accelerated course at Baltimore City College, a highly selective public high school. Martin Rodbell matriculated at the Johns Hopkins University in 1943 but was soon drafted into the U.S. Navy. He served with the Navy in the South Pacific, the Philippines, Korea, and China before returning to the Johns Hopkins University and earning his Bachelor of Arts degree in biology in 1949. Martin received his Ph.D. degree from the University of Washington at Seattle in 1954 for research performed in the laboratory of Don Hanahan. Rodbell received postdoctoral training at the University of Illinois under Herbert Carter in the Department of Chemistry.

In 1956, Rodbell joined the laboratory of Christian Anfinsen, himself a recipient of the Nobel Prize for Chemistry in 1972, at what was then called the National Heart Institute. Rodbell subsequently moved to the NIAMD in 1961 where his research with hormone-sensitive fat cells led to his landmark theory of transducers as mediators of hormone action subsequent to their binding to their respective receptors, which became a major contribution to the general concept of "signal transduction" that has become extremely important in modern biology. In 1970, Rodbell discovered that signal transmission requires a small intracellular molecule called GTP and that the breakdown of GTP to GDP was an integral regulatory step in the control of hormone action. GTP was subsequently found to bind to G-proteins, a family of proteins that serve as intermediaries between incoming signaling molecules, such as hormones and drugs, and the cellular proteins that respond to the signals. Rodbell followed his discovery of the signal transmission function of GTP

with work on the nature and mechanism of action of G-proteins, which have been shown to play many roles in normal cellular function, including cell growth and neurotransmission. Aberrations in G-proteins and their functions underlie a variety of disease states, from cancer to cholera.

In 1985, Rodbell moved to the NIEHS in Research Triangle Park, North Carolina to continue his research and become the Scientific Director, a position that he held until 1989. While at the NIEHS, Rodbell continued his studies on G-protein-mediated signal transduction, discovering that G-proteins are present in large oligomeric structures and characterizing the diverse effects of G-proteins on cell structure and

function. Colleagues and friends of Rodbell at the NIEHS recently initiated the Martin Rodbell Lecture Series in his honor. On 16 November 1998 at the NIEHS, Rodbell himself presented the first seminar in that series titled "Fifty Years in Science: Zigs and Zags with a Common Theme."

During his distinguished career at the NIH, Rodbell held a number of positions including those of chemist at both the National Heart Institute and the NIAMD; Chief of the Section on Membrane Regulation and Chief of the Laboratory of Nutrition and Endocrinology at the National Institute of Arthritis, Metabolic, and Digestive Diseases; and Scientific Director, Chief of the Section on Signal Transduction, and Scientist Emeritus at the NIEHS. In addition, Rodbell held numerous academic positions including those of Professor and Director, Institut de Biochimie Clinique, University of Geneva; Adjunct Professor of Physiology, Georgetown University Medical Center; Adjunct Professor of Cell Biology, Duke University; Adjunct Professor of Pharmacology, University of North Carolina-Chapel Hill; and Adjunct Professor of Pharmacology, Virginia College of Medicine. Rodbell won numerous awards for his work in addition to the Nobel Prize including the Jacobaeus Award, the Gairdner International Award, the Richard Lounsberry Award, and an Honoris Doctoris from the Montpellier University; Rodbell also received the North Carolina Award, the highest award the State of North Carolina can bestow. Rodbell was a member of many distinguished professional societies including the U.S. National Academy of Sciences, the American Academy of Arts and Sciences, and several other foreign and national science societies.

Rodbell and his wife of 48 years, Barbara, had lived in Chapel Hill, North Carolina, since he came to the NIEHS as Scientific Director in 1985. He is survived by his wife, Barbara; a daughter, Suzanne Richardson of Cabin John, Maryland, sons Paul of Silver Spring, Maryland, Andrew of Bethesda, Maryland, and Philip of Ringham, Massachusetts, and seven grandchildren. ■